

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1 and 4-8 are presently active in this case. Claims 1, 4, and 8 are amended, and Claims 2, 3, and 9 are cancelled without prejudice or disclaimer by way of the present amendment.

The outstanding Office Action rejects Claims 1-2 under 35 U.S.C. § 102(b) as anticipated by Dunder (U.S. Patent No. 5,443,800); rejects Claims 3, 4, 8, and 9 under 35 U.S.C. § 103(a) as unpatentable over Dunder; and rejects Claims 5-7 under 35 U.S.C. § 103(a) as unpatentable over Dunder in view of Suzuki et al. (U.S. Pat. No. 5,417,936, herein “Suzuki”).

In regard to the rejection of Claim 1 under 35 U.S.C. § 102(b) as anticipated by Dunder, Applicants respectfully traverse the rejection for the following reasons.

To establish anticipation of Claim 1 under 35 U.S.C. § 102(b), the outstanding Office Action must show that each and every feature recited in Claim 1 is either explicitly disclosed or necessarily present in Dunder.<sup>1</sup>

The outstanding Office Action asserts that Dunder discloses all of the features recited in Claim 1. Applicants respectfully disagree.

Claim 1 recites an apparatus for generating ozone and linearly controlling the concentration of the ozone being generated, comprising, *inter alia*, means for generating ozone by applying electrical discharge to the oxygen provided by the means for providing oxygen, means for generating a control signal, means for providing a first pulse signal for the electrical discharge, wherein the first pulse signal providing means is configured to generate a low-frequency pulse having an ON/OFF time ratio depending on the control signal and a

high-frequency pulse optimized for the electrical discharge, to mix the low-frequency pulse and the high-frequency pulse, and to generate the first pulse signal having an adjusted ON/OFF time ratio, and means for transforming the first pulse signal from the first pulse signal providing means into a predetermined signal level having a frequency in a range of 1 to 50 kHz, wherein the transformation means is electrically connected to the ozone generation means and the first pulse providing means.

Dunder does not disclose at least the above-mentioned first pulse signal providing means and transformation means of Claim 1. In Dunder, “the control signal from the control signal generation means 42 and the pulses from the pulse generating means 44 are fed into a pulse train gate means 46.”<sup>2</sup> The pulse generating means 44 “generates pulses, preferably square wave pulses, where the period of each pulse . . . is 10 milliseconds.”<sup>3</sup> In other words, in Dunder, the pulse generating means generates only one type of pulse whose frequency is 100 KHz. This pulse signal and a control signal are fed into a pulse train gate means, which is configured to function as an AND gate.<sup>4</sup>

Conversely, in an exemplary embodiment of the invention, the first pulse signal providing means recited in claim 1 is configured to generate two types of pulses. In other words, the above-mentioned first pulse signal providing means of claim 1 is configured to generate a low-frequency pulse having an ON/OFF time ratio depending on the control signal and a high-frequency pulse optimized for the electrical discharge, to mix the low-frequency pulse and the high-frequency pulse, and to generate the first pulse signal having an adjusted ON/OFF time ratio.

Dunder does not disclose or suggest a means for transforming a first pulse signal from a first pulse signal providing means into a predetermined signal level having a frequency in a

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<sup>1</sup> MPEP § 2131.

<sup>2</sup> Column 4, lines 59-61 of Dunder.

range of 1 to 50 kHz, as recited in Claim 1.

Accordingly, Applicants submit that Claim 1 is patentable and the rejection of Claim 1 under 35 U.S.C. § 102(b) should be withdrawn.

Applicants have canceled Claim 2, rendering the rejection of Claim 2 under 35 U.S.C. § 102(b) moot. In regard to the rejection of Claims 3 and 9 under 35 U.S.C. § 103(a) as unpatentable over Dunder, Applicants have canceled these claims, rendering the rejection moot as well.

In regard to the rejection of Claims 4 and 8 under 35 U.S.C. § 103(a) as unpatentable over Dunder, Applicants respectfully traverse the rejection for the following reasons.

Claims 4 and 8 depend on Claim 1. As discussed above with respect to Claim 1, Dunder does not teach or suggest each and every element recited in Claim 1. For example, Dunder does not teach or suggest at least means for providing a first pulse signal for the electrical discharge, wherein the first pulse signal providing means is configured to generate a low-frequency pulse having an ON/OFF time ratio depending on a control signal and a high-frequency pulse optimized for the electrical discharge, to mix the low-frequency pulse and the high-frequency pulse and to generate the first pulse signal having an adjusted ON/OFF time ratio and means for transforming the first pulse signal from the first pulse signal providing means into a predetermined signal level having a frequency in a range of 1 to 50 kHz, as recited in Claim 1.

Accordingly, Applicants submit that Dunder does not render Claim 1 obvious under 35 U.S.C. § 103(a). Since Claims 4 and 8 depend on Claim 1, Applicants respectfully request that the rejection of Claims 4 and 8 under 35 U.S.C. § 103(a) be withdrawn.

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<sup>3</sup> Column 4, lines 53-57 of Dunder.

<sup>4</sup> Col. 4, lines 59-66 of Duner.

In regard to the rejection of Claims 5-7 under 35 U.S.C. § 103(a) as unpatentable over Dunder in view of Suzuki, Applicants respectfully traverse the rejection for the following reasons.

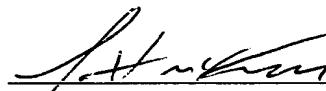
Claims 5-7 depend on Claim 1. As discussed above, Dunder does not render Claim 1 obvious under 35 U.S.C. § 103(a). Suzuki does not cure the deficiencies of Dunder. For example, even assuming Suzuki could properly be combined with Dunder, which Applicants dispute, Suzuki does not teach or suggest at least means for providing a first pulse signal for the electrical discharge, wherein the first pulse signal providing means is configured to generate a low-frequency pulse having an ON/OFF time ratio depending on a control signal and a high-frequency pulse optimized for the electrical discharge, to mix the low-frequency pulse and the high-frequency pulse and to generate the first pulse signal having an adjusted ON/OFF time ratio and means for transforming the first pulse signal from the first pulse signal providing means into a predetermined signal level having a frequency in a range of 1 to 50 kHz, as recited in Claim 1.

Accordingly, Applicants submit that Dunder in view of Suzuki does not render Claim 1 obvious under 35 U.S.C. § 103(a). Since Claims 5-7 depend on Claim 1, Applicants respectfully request that the rejection of Claims 5-7 under 35 U.S.C. § 103(a) be withdrawn.

In view of the foregoing remarks, Applicants respectfully submit that each and every one of Claims 1 and 4-8 defines patentable subject matter, and that the application is in condition for allowance. Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims.

Respectfully submitted,

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